

What is claimed is:

1. The invention concerns an exposure and modulation device (1) for modulating the exposure intensity in the integrating digital screen-imaging system (IDS) comprising a light source (2), a light modulator (4) that comprises a plurality of rows of light-modulating cells (8), a device (3) for imaging on the light modulator (4), a device (9) for imaging the light modulator (4) on photosensitive material (5), and a device for producing a relative motion between the light modulator (4) and the photosensitive material (5), whereby the direction of motion is basically perpendicular to the direction of the rows of light-modulating cells, and comprising a device for scrolling a data pattern through the various columns of the light modulator (4) at a speed by means of which the imaging of any data pattern is kept basically stationary relative to the photosensitive material (5) during the motion, wherein the device comprises at least one device (10) for varying the number of cells (11) of the light modulator (4) used for the exposure of the photosensitive material (5).
2. The device according to Claim 1, wherein the light modulator (4) comprises a digital mirror device (DMD).
3. The device according to Claim 3, wherein the light modulator (4) comprises 1024 \* 758 cells (8)
4. The device according to one of the Claims 1 through 3, wherein the light modulator (4) comprises a liquid-crystal array.
5. The device according to one of the Claims 1 through 4, wherein the light modulator (4) comprises magneto-optical cells.
6. The device according to one of the Claims 1 through 5,

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1 wherein the light modulator (4) comprises ferroelectric cells.

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3 7. A method for the exposure and modulation of exposure intensity in the  
4 integrating digital screen imaging system (IDSI), in which light from a light source  
5 (2) is imaged on a light modulator (4) that comprises a plurality of rows of light-  
6 modulating cells (8), and is modulated by this, after which the light modulator (4)  
7 is imaged on photosensitive material (5) moving in a motion relative to the light  
8 modulator (4), wherein the direction of motion is basically perpendicular to the  
9 direction of the rows of light-modulating cells (8), and that the data to be imaged  
10 on the photosensitive material (5) are scrolled through the columns of the light  
11 modulator (4) at a speed by way of which the imaging of any data pattern is kept  
12 basically stationary relative to the photosensitive material (5) during the motion,  
13 wherein the plurality of cells (11) of the light modulator (4) used to expose the  
14 photosensitive material (5) can be varied.

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16 8. The method according to Claim 7,  
17 wherein the data to be reproduced can be moved to any column so they can be  
18 transferred from there to the subsequent columns.

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